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THE ZOOLOGIST:

A Monthly Journal

OF

NATURAL HISTORY,

FOR

RECORDING FACTS AND ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES AND INSECTS.

No. CCCXX. or S.S. No. 29.

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ENTOMOLOGIST'S YEAR-BOOK.—This little work will be presented to those Subscribers to the 'Entomologist' whose prepayment for the year has reached my hands before the 28th of February. On and after the 28th of February the price will be sevenpence to all purchasers. Those gentlemen who have already prepaid for the 'Year-Book' will please inform me whether they prefer to have the two copies (the one purchased, the other given), or a single copy and the stamps returned.—Edward Newman.

THE LETTERS OF RUSTICUS ON NATURAL HISTORY.

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Natural History Notes from Morayshire.

By GEORGE NORMAN, Esq.

DURING the year 1867 I resided, from the month of June until the end of October, at Forres, in Morayshire, and having made a few notes I venture to make a selection which may interest the readers of the 'Zoologist.'

To the sportsman and naturalist the country round Forres has been rendered classic ground since the late Charles St. John resided there during the time he wrote his interesting 'Natural History and Sports of the Highlands.' I quite agree with St. John in his estimation of the varied beauties of the country in this district; certainly no part of the British Isles that I am acquainted with contains within the same limits so great a variety of aspect, and presents so many attractions to the naturalist and sportsman, as the country around Forres. Miles of magnificent pine, spruce and larch forest; numbers of fine rivers and lochs, abounding with salmon and trout; extensive upland moors; a wonderfully mild climate and dry soil: these, with a sea-coast within half-an-hour's journey, are features not often so happily combined in one locality. Indeed, to one fond of Natural History and sporting, it is a glorious country. During the whole five months I resided in Forres we experienced a remarkable freedom from electrical disturbance, for I do not remember noticing either thunder or lightning. The climate is very much milder than the part of Yorkshire I am now writing from: as an instance of this, I may mention having eaten both peaches and nectarines quite as well ripened as any I have seen in Covent Garden: these were grown in the open air by the kind and hospitable Laird of Dalvey, Norman M'Leod, Esq. In the garden at Dalvey I noticed remarkably fine specimens of Ailanthus glandulosa, forty feet high, Magnolia acuminata (?), perhaps twenty feet, and a tall shrub sent by the late Dr. Wallich from India, all flourishing without any protection in the open air. These facts are given to show how mild the climate is in a locality so far North.

Cole Tit.—This is perhaps the most common bird in the extensive plantation at Cluny Hill, the place where I resided. The woods seem alive with them. I looked out for the marsh tit, but in vain, and if found in this district it must be rare. The cole tits more generally associated with goldencrests, large and blue tits.

BRITISH MUSEUM

Bullfinch, &c.—Bullfinches are by no means rare, and I saw, on one occasion, a pair of these birds collecting nesting materials. I had eggs of this species given me afterwards. Swifts, swallows, martins and corn crakes were very abundant by the beginning of June, when I found a willow wren's nest and eggs.

Banks of the Findhorn.—On the 3rd of June I visited Relugas and Glen Ferness, both stations on the glorious River Findhorn. At both places the high crags, forming the boundary of the stream, are of fine red granite erupted through the old red sandstone. There are acres of Polypodium Dryopteris and P. Phegopteris, with Trientalis europæa and Goodyera repens. Noticed by the way-side large quantities of Agaricus gambosus, which, when cooked, is in my opinion quite as nutricious and delicate in flavour as the common mushroom: I made many gatherings of this early fungus and enjoyed them amazingly.

Redstart.—I noticed this bird at Glen Ferness, and afterwards found them to be not uncommon.

Wheatear, &c.—Wheatears, stonechats and whinchats, although noticed in this district, are by no means common.

Oystercatcher.—Early in June I took a stroll on the banks of the River Findhorn, between Forres and its embouchure into the bay on the Moray Firth. Here I saw numbers of oystercatchers, evidently nesting among the loose shingly islands: they were very bold, flying within ten yards of my face. Two days afterwards I took down my gun, wishing to procure a specimen in full plumage, but found them excessively wary.

Common Sandpiper.—Among the whin-bushes and alders growing on the banks of the Findhorn, I found several nests of the common sandpiper, mostly with four eggs. One nest was on a branch quite in the centre of an alder-bush: the eggs were strongly incubated. A young bird was captured, after a long chase, in some shallow pools, where it dived and swam about quite as expertly as a water vole.

The Culbin Sandhills.—On the 8th of June I visited the Culbin Sandhills, an enormous deposit of pure white sand, blown up from the Moray Firth into small mountains, and covering many villages and much cultivated land, it is said. The sand-hills are mostly bare, but in some places they are covered with extensive tracts of broom, whin or heather. Saw here a fox, evidently on the look-out for rabbits, which abound here in thousands. Here, growing where the sand was damp, was a very peculiar brown scaly fungus, which may turn out to be Agaricus Bongardii, and if so probably new to our lists. I saw many ring plovers evidently near their nesting-places; but I failed in finding the nests, from not knowing the exact localities where to look for them.

Colony of Terns.—Noticing a great outcry from a vast assembly of terns (*Sterna Hirundo*), I directed my steps to a large expanse of stony ground near the sea, evidently a former beach, though now separated from the ocean by a range of high sand-hills. Here the colony of terns were breeding, and I soon found five nests with eggs, the number in each varying from two to four. Watching the birds flying overhead, I noticed several of a much smaller size and uttering quite a different cry from the larger birds: these I fancy were the roseate tern (*S. Dougallii*), although at the time I did not succeed in shooting one. Some weeks afterwards my friend Captain Ruxton shot an adult specimen, which he described to me as having a rose-coloured breast. I afterwards shot a young bird of this species, so that in all probability it is not uncommon on this coast.

Kingfisher.—This bird is very scarce here, and has apparently reached its utmost northerly limits. It has, however, been occasionally shot on the Findhorn, and I saw a specimen in Mr. M'Leod's museum at Dalvey.

Fishes.—The River Findhorn is a capital salmon stream, and late on in the season I frequently got a moderate basket of trout, with a few "finnock," the local name for the grilse of the sea trout. In the fish market I saw very few good fish: what one sees exposed for sale are principally small cod, coal-fish, sea-bream, whiting, haddocks, gurnard and herrings. Deep-sea fishing is entirely neglected, nor are the open boats at all adapted for the purpose. I was often struck with the fact of the people sitting the whole morning in the streets selling a few miserable handfuls of small fry, which on the English coast would have been disposed of by the hundredweight or ton in one-tenth of the time. The Scottish people may be very much ahead of the Southerners in many respects, but are certainly far behind us in deep-sea fishing. The dogger bank, that unfailing source of wealth to the deep-sea fisherman, is quite as convenient of approach from the Scotch as from the Yorkshire coast.

Darnaway Forest.—On the 12th of June I walked over to the magnificent Darnaway Forest, in order to visit a colony of black-headed gulls (*Larus ridibundus*). We found in various parts of the forest three or four distinct colonies of this bird: they had chosen for their nesting-places islands in the centre of a loch, also some rushy patches in the centre of a swamp. Very few of the young birds were off yet, but most of the eggs were too strongly incubated for blowing. These colonies reminded me of the one at Twigmoor, near Brigg. In both places I noticed the gulls occasionally settle on the pine and spruce firs. A nest was taken of what we supposed was the spotted rail. In this forest, and also at Altyre, the common crossbill is found throughout the year in great numbers, and the nests are, I am told, not uncommon in the early spring. I have an egg given me by a youth who took a nest last spring. The siskin also breeds here, according to the testimony of the keeper. Among the heather I noticed many Argynnis Euphrosyne, and several three-spotted dragon-flies. I never saw a more likely place for adders, and although I searched diligently for them I never saw one. It is strange that, although the country is so well adapted for these reptiles, they are very rarely seen, and then only of small size. The common ringed snake (*Coluber natrix*) is unknown, and the only other reptiles I have seen were the small lizard among the heather, probably Zootoca vivipara, the blindworm, land efts and frogs.

Knock of Brae Moray.—On the 18th of June, in company with Messrs Hislop and Terry, drove, by way of Duniphail, to the "Knock of Brae Moray," a moory eminence 1300 feet high, and some twelve miles from Forres. The whole way there was through the glorious Altyre woods, quite studded with beautiful Fungi, now becoming more plentiful. Noticed many species of Lactarius and several Boleti. Caught several lizards on the top of a stone wall. On the Knock I found a grouse's nest with eggs, which is very late. Saw many young grouse recently hatched. The view from the top of the Knock was magnificent: the picturesque Loch Endorb just below us, while towards the N.W. were Ben Wyvis and other high lands in Sutherlandshire and Caithness, all more or less snow-flecked, while towards the South were the Cairngorm group, with Ben Muich Dhui, yet heavily mantled with snow. Caught among the heather a specimen of the ruby tiger moth (*Arctia fuliginosa*). Squirrels are excessively numerous in the woods here, doing much damage by biting off the tops from the larch and pine trees, thus destroying the lead. I noticed the tails of some specimens were very pale, almost white in colour.

By the 24th of June Fungi were very plentiful, and I gathered the following:—Boletus edulis, B. scaber, B. luridus, Cantharellus cibarius, Agaricus arvensis, Russula alutacea and Amanita rubescens: many of these are excellent as food. Among insects I noticed Smerinthus Populi and Biston betularia: Erebia blandina was in great profusion.

Goatsucker.—Goatsuckers are very abundant here, and I obtained several specimens. On the Califer Hill I saw as many as six or seven on the wing together, and even after ten o'clock at night I could easily distinguish the males from the females by the white spots on the tail. This bird, in addition to its well-known jarring note, often utters when flying a shrill piping cry.

Woodcock.—Frequently I have seen the woodcock flying over the woods just before dark, and have then remarked that this bird also utters a shrill piping cry, although invariably mute when flushed during the day-time.

Dunlin, Redshank, Spotted Flycatcher and Water Ouzel.—On the 30th of June I took a walk down to the "Carse," a tract of low-lying waste ground bordering the Bay of Findhorn, in hopes of finding a late nest of the dunlin: among the tufty hillocks I found several old nests. Picked up a dead redshank, and on cutting it open found an egg quite uninjured. Spotted flycatchers are not uncommon; and the water ouzel, as might be expected, is found on every burn: I noticed under an old bridge over the Forres Burn a nest of this species, and was told that it builds there every season.

Califer Hill.—On the 8th of July I took a walk to the Califer Hill, and noticed several pretty plants, Pyrola, Narthecium ossifragum, Goodyera repens, Erica cinerea and Habenaria bifolia. In the pine woods there I found a fruity-smelling fungus, with blue cap and stem and cinnamon-coloured gills: this I take to be Cortinarius glaucopus: it seems very abundant in this locality.

Culbin Sands.—On the 23rd of July I walked down to the Culbin Sands, by way of Brodie and the Dalvey woods. Found an abundance of Cantharellus cibarius, Lactarius rufus, and the singular but offensive Phallus impudicus, by the way. On the Culbin Sands I saw hundreds of teal, shieldrakes and oystercatchers. I was much amused by watching the numerous Richardson's skuas, here called "dirtenallens." These sat in numbers on the sands, closely watching the fishing operations of the various gulls and terns: immediately a catch was observed the crafty skua would fly up, and attack the poor bird until he disgorged his hardly-earned meal, which fell to the share of this filibustering knave.

Cuckoo.—Cuckoos were not very numerous: I saw a young flyer on the 28th of July.

Fungi.—Among the Fungi now out were early specimens of the beautiful Agaricus muscarius, together with Hydnorum repandum, H. zonatum and Lactarius deliciosus. I may here mention an adventure I had with Agaricus muscarius. Knowing that the Siberians use this fungus in the preparation of one of their beverages, I was anxious to verify or not its reputed intoxicating properties. I consulted Lightfoot, who misled me by stating that two or three specimens might be eaten with impunity. Having boiled a few I partook of little more than a whole specimen: this was about five o'clock in the afternoon; by 7 P.M. I noticed symptoms of slight giddiness, which gradually became more and more apparent until half-past nine o'clock, when the intoxicating effects increased to such an extent that I began to be alarmed: however, I went to bed at ten, and slept for a few hours, and awoke quite free from any trace of its effects. I mention this as a warning to future rash experimenters.

By the end of July the heavy rains in the mountains had filled the burns, and I often filled my basket with fine river trout.

On the 10th of August I again visited the Culbin Sands and the little fishing village of Findhorn. I saw plenty of "grayling" butterflies on the sand-hills. I took my gun to the coast, and soon saw a fine pair of Lestris parasitica: the adult male, with a black cap and yellowish cheeks, I killed at a long distance, when the female, in her uniform brownish garb, flew circling round her fallen mate: a second shot procured me this likewise. I also shot a young roseate tern.

August 26. "Red Admiral" butterflies are now appearing, but no Cynthia Cardui, although my friend Dr. Innes informs me that it was common enough last season.

Cossus ligniperda.—Near the lime-kilns at Cothall I found an old birch tree completely riddled by the larvæ of Cossus ligniperda: the juice had run down the trunk, making the whole vicinity smell like a distillery, and collecting hundreds of wasps by its vinous odour. I dug into the tree, and took out at least fifty larvæ. In the rotten wood of the tree were many Coleoptera of two species, Soronia punctatissima and Synodendron cylindricum. The woods of Altyre and Darnaway are much infested with the goat moth larvæ, for in driving through one sees dozens of fine oak trees with the sap flowing from the infected parts.

In August I found many larvæ of Smerinthus Populi, Cerura vinula, Saturnia pavonia-minor, and, later on, Notodonta dromedarius.

In the woods I have frequently seen huge white Fungi growing from the limbs of the birch trees: this is Polyporus betulinus, which, when dry and cut into thin slices, makes a good substitute for cork in lining the drawers of an insect cabinet.

Crossbill.—On the 5th of September I saw a small flock of crossbills flying over the trees at Cluny Hill, but the great mass of these birds are not seen near the grounds here until the larch-cones are ripe. On the 15th of October I spent the day in Altyre Forest, along with the head keeper, and although we looked diligently for hours we neither saw nor heard them. The keepers say that some days they see them by hundreds. The owner of a timber sawing-mill also informed me that he has frequently caught them with a sieve and string. On the 27th (Sunday) I heard, in the Cluny grounds, the well-known ringing call-note of this bird, and saw a flock of ten pitch into some larch-trees, and busy themselves in separating the seeds from the cones. Being anxious to have a specimen I was sorely tempted to take out my gun, but, knowing the prejudices of the people, refrained from doing so, hoping to see them the next day. The next morning before breakfast I took out my gun, and soon procured three fine males, all more or less red, one particularly so. I had to leave Forres a few days afterwards, which was annoying enough, for I had a wish to study more closely the habits of this interesting bird. I am told they remain about the grounds at Forres all the winter.

Noctuidæ.—During September and October I tried the plan of sugaring trees for moths; and although the pages of the 'Zoologist' (alas!) are no longer open for the announcement of insect captures, I trust the small list of Noctuidæ found in the locality will not be deemed unworthy of insertion.

Hydrœcia nictitans. Once or twice at sugar.
„ micacea. One at light.
Xylophasia polyodon. Abundant at sugar.
Charæas graminis. Abundant on ragwort.
Luperina testacea. Occasionally at sugar.
Agrotis valligera. One at sugar.
„ suffusa. Not unfrequent at sugar.

Agrotis exclamationis. At light.
„ Tritici. Very frequent at sugar.
„ agathina. On heath.
„ præcox. At light.
Triphæna orbona and T. pronuba. Both frequent at sugar.
Noctua glareosa. Not unfrequent at light.
„ depuncta. Once at sugar.
„ C-nigrum. At light.
„ xanthographa. At sugar.
Anchocelis rufina. Plentiful at sugar.
„ litura. Abundant at sugar.
Cerastis Vaccinii. Abundant at sugar.
„ spadicea. Not unfrequent at sugar
Scopelosoma satellitia. Abundant at sugar.
Xanthia Cerago. One at light.
„ ferruginea. Abundant at sugar.
Polia Chi. Abundant on palings and sugar.
Epunda nigra. Very abundant on palings and sugar.
Miselia Oxyacanthæ. Abundant at sugar.
Agriopis aprilina. Abundant at sugar.
Phlogophora meticulosa. Abundant at sugar.
Hadena protea. Abundant at sugar and on pine trees.
Calocampa vetusta and C. exoleta. Abundant at sugar.
Plusia Gamma. Abundant on heath.
Amphipyra Tragopogonis. Abundant at sugar.
Stilbia anomala. Once at light.

Next season I intend hunting the locality more completely, and shall be glad if a gentleman or gentlemen will join me.

GEORGE NORMAN.

Ben Rhydding, Yorkshire,
December 5, 1867.

The Walrus at the Zoological Gardens.

By EDWARD R. ALSTON, Esq.

No account of the young walrus (*Trichecus rosmarus*, Lin.), which has recently been added to the collection of the Zoological Society, having yet appeared in the 'Zoologist,' I am induced to give a short description of its form and history.

As most of your readers probably know, the walrus or morse has long been a much-lamented want at the Zoological Gardens. Last year Professor Newton gave some account of former attempts (Zool. S. S. 203), and pointed out what an attraction such a huge and yet sagacious amphibious monster would prove to the general public. The last live walrus brought to England was at the Gardens, he states, in 1853, but it succumbed in a few days to a diet of oatcake!

The present specimen, a young male, supposed to be about a year old, was captured in Davis's Straits, on the 28th of August, 1867, by the crew of the whaler "Arctic." It was one of a large herd, and was still in company with its mother, who was harpooned: the poor young beast refused to leave the body of its parent, and was eventually noosed and dragged on board. At first it sulked and refused all food, but after some days consented to eat some fat pork and a mess of boiled oatmeal. On the arrival of the "Arctic" at Dundee, the Zoological Society were at once communicated with, and the purchase was soon negociated.

The walrus was soon removed to London and put on a diet more suitable to its tastes and habits than pork and porridge. As is well known, the food of this animal has long been a matter of dispute; the shortness and bluntness of its molar-teeth showing that it could not live exclusively on fish, while Sir Everard Home stated, in the 'Philosophical Transactions,' that a friend of his had found its stomach to contain sea-weed only. Much reliance cannot, however, be placed on any statement of that singularly inaccurate and fanciful writer, and Mr. Lamont, in his 'Seasons with Sea-horses,' states that those he examined in the North contained the remains of various molluscous, annulose, and radiated marine animals, although he believed that they sometimes do eat sea-weed. This account, being variously confirmed, and according with the structure of the teeth, which are well calculated for crushing hard shell-fish, induced Mr. Bartlett to try it with mussels and whelks. The experiment proved completely successful, and its principal food is still various Mollusca, although it also greedily devours sprats and other fish. Hitherto it has obstinately rejected all proffers of sea-weed. It would be an interesting experiment to test its capabilities as a fisher by turning a number of live fish into its tank.

In the end of November I had an opportunity of paying my respects to the sea-horse, and found him comfortably settled in the habitation of his lamented relative the sea-bear, which animal many of your readers may remember, and to which the young walrus bears a very striking resemblance in general form and appearance. I do not know any illustration in books of Natural History which gives a good idea of the creature; the ordinary drawing is much too rounded, smooth and bulky, while that in Professor Bell's work is too seal-like in its attitude; Mr. Wood's portrait of the present specimen, in the 'Field' of November 16th, has a flattened and depressed look, and is too rough and woolly-looking: the engraving in 'The Illustrated London News' is much better. In shape the young walrus is singularly ungainly and angular; his skin is marked all over the neck and flanks with deep wrinkles and is covered with closely-lying brownish hairs. Professor Bell describes the *adult* animal, however, as having only "a very few short stiffish brown hairs, principally on the feet" ('British Quadrupeds,' p. 289). His tusks have not yet made their appearance, but he possesses a most formidable beard of stout stiff bristles, which makes him resemble, according to a friend of mine, "an old baldheaded dragoon officer with a heavy gray moustache." The eye is small but intelligent, the orifice of the ear inconspicuous, and the mouth rather small.

In his ordinary position the fore feet or flippers are turned outwards and backwards, while the hind feet are directed forwards. In this way the walrus manages to walk, or rather shuffle, along in an awkward waddling manner, very like the gait of the sea-bear, but very different from the still more grotesque manner in which the seals in the next inclosure hop along on their bellies. His swimming and diving are of course much more dexterous than his movements on shore, and his "headers" from the sides of the tank are very neatly executed. The keeper informs me that on the walrus being released from his house one morning he found his pond covered with a thin sheet of ice; at once he plunged through it, and then swam round and round, bringing up his head at intervals with such force as to break the ice, and continuing to do so till he had smashed it all up. Dr. Kane, in his 'Arctic Adventures,' gives drawings of the "atluks," or walrus- and seal-holes in the ice, at which these animals are often waylaid and shot.

The present specimen already recognises his keeper and comes to his call, but has not yet learned any accomplishments, which he will probably do in time.

Many interesting particulars as to the haunts and habits of the walrus will be found in Mr. Lamont's work, already quoted, and a full description of one killed in the Hebrides in 1817 is given by Mr. Macgillivray in the 'Naturalist's Library,' vol. xvii. p. 223.

EDWARD R. ALSTON.

Stockbriggs, Lesmahagow, N. B.,
December 23, 1867.

[On the day on which Mr. Alston's paper reached my hands a notice appeared in the 'Times' of the death of the walrus, since which a most careful dissection of the animal has been made by Dr. Murie, the Prosector to the Zoological Society, at the gardens in the Regent's Park, with the twofold purpose of examining and recording the anatomical structure of the animal, and of ascertaining the cause of its death: this was, apparently, the presence of a large number of Entozoa in the stomach. These amounted to many thousands, averaging from one to three inches in length, and in thickness from that of a thread to a good-sized knitting needle, both ends tapering to a point. The exact species of worm has not yet been determined, and it is not known when or how they were introduced into the stomach. Their presence, however, was accompanied with ulceration of the mucous lining of the stomach, which caused the death of the animal. It is singular that these worms were confined to the stomach, not being found in the intestinal canal, and no evidence of their existence was manifested during life. Dr. Murie has had the opportunity of contrasting the anatomical structure of the walrus with that of the sea-bear, and the record of the distinctions between them will be of great service to naturalists. It may interest our readers to know that the skin and skeleton of this animal have been secured for the British Museum, and that the anatomical preparations to illustrate the structure of the viscera will form part of the collection in the Museum of the Royal College of Surgeons.—*E. Newman.*]

Letters on Ornithology. By HARRY BLAKE-KNOX, Esq.

(Continued from S. S. 631).

LETTER VI.—BRITISH LARIDÆ. Genus LARUS. Species CANUS.

Part II.—*Being an Account of its Plumages and Transformations from the Nestling to the Adult Bird.*

> "May this magnificent study, second to none but Theology, daily gain more favour in the eyes of the public; and be the time not far distant when observers shall arise capable of giving greater accuracy and precision to our knowledge of British birds. While the world endures—be it a thousand years or a million of centuries—the works of God will never be fully comprehended by man; and thus there is delightful occupation in view for all time."—Prof. W. MACGILLIVRAY, *Preface*, Vol. iv., '*History of British Birds.*'

PERHAPS the plumages of no bird are so apt to be curtailed as are those of the common gull, authors describing it adult at one and two years old; yet nevertheless it takes, I find from years of observation, over four years to attain the adult appearance, and in consequence, I believe, irrespective of internal examination, it does not propagate its kind till the fifth spring—that is, five years old, within a month or so. In this respect it allies itself closely to the true gulls (Larus), though in change of plumage it is strikingly dissimilar, slightly approaching, however, in this respect, the genus Xema, or blackheaded gulls. I find that the generality of sea-fowl assume a dress very similar to the adult the summer before they breed, though in the gulls there is an immature aspect discernible about the quills called the primaries. Why the plumages of this gull have been so curtailed by authors (refer to any writer British or foreign) seems to me to be, that after the third summer and autumn moult, two years old, there is no glaring distinction between old and young; yet still it must be quite obvious to the student of Nature that the plumage is not matured till after the fifth autumn moult. To the student and researcher it is equally easy to learn that the birds do not breed till they are five years old: this can be proved conjointly by the character of the plumage, and dissection, of those birds which we see in apparently adult plumage during the breeding season, associating together or mixed with still younger birds, often far from any breeding haunt (in this species of gull particularly, hundreds of miles may intervene), though it is generally more natural to find them in the vicinity of bird-rocks, collected there by the numbers of other sea-fowl,—a habit of the gulls,—and also because these bird-rocks are by Nature placed in the direct track of the migratory fishes on which such millions of birds feed. Authors have called these apparently adult, though still, in reality, young birds, barren gulls, or very old worn-out individuals. Without a critical knowledge of plumage and dissection this would not seem so very improbable an opinion, for young birds do not change plumage by moult till about June or July—there are exceptions both ways—till late in the autumn, consequently the feathers they bear at the breeding season are those which have weathered the winter, and are of a necessity worn and faded. A lesser blackbacked gull in the fifth summer—that is, four years old—is generally, to all appearance, a tremendously old bird, the dun-coloured black plumage having worn and faded to brownish black, the tail, the quills and, in fact, all the plumage looking quite mangy, and the most part of it dead and ready to fall out as the moult advances. The lavender-backed gulls, being of a more subdued colour, do not show the effect so much; still the worn plumage is the same. On the other hand, in adult birds the plumage is revivified, rejuvenated, reimpigmented in the spring, when their plumage becomes most lovely, perfect and soft, at once giving the idea of youth and vigour, though not of necessity.

SYNOPSIS OF THE PLUMAGES.

First Year.

First Plumage or First Summer.—Head and neck white, spotted with brown. The upper surface of the body and wings, except the upper tail-coverts, dark brown, barred with paler brown. Wing-quills brown and black. Tail black and white, as are its upper coverts. Under surface of the body white, transversely marked with cinereous-gray or dull brown, the centre of the belly being generally, however, plain white. Bill, basal half flesh-colour, point half black. Feet dull flesh-colour. Orbits black. Irides dark brown. Lips and inside of mouth dull flesh-colour.

First Winter Plumage.—Markings on head and neck sharper, darker and more distinct. Back and scapulars intermixed with lavender-gray feathers. Secondary large coverts more lead-colour, as is also the rump. Under plumage a purer white, with the dark markings sharper and better defined. Feet greenish flesh. Lips and mouth yellowish flesh. Rest as in first plumage.

Second Summer Plumage.—In its early part a faded addition of first winter. From June, often earlier, the bird is in perpetual moult, and shows great diversity of dress as the new feathers for the approaching winter appear. The basal portion of the bill and the feet change to greenish gray.

Second Year.

Second Winter Plumage.—Head and neck white, sharply and intensely spotted with black. The upper surface, except the wing-coverts, as in the adult; the secondary coverts as the adult, but still tinged or dusted with brown. The primary coverts, the bastard wing and its appendages leaden gray, indiscriminately and vigorously clouded with black. Breast still lightly marked with dun-colour transverse wavy bars. Bill, basal half grayish or greenish lead-colour, tip half black. Lips and mouth, flesh tinged with orange.

Third Summer Plumage.—Head and neck mostly wear nearly to white, though generally are still mottled; the breast generally loses its dark markings. The bastard wing and the primary coverts are still well marked with black, which generally fades to rich brown. The base of the bill becomes more of a yellow-green, the tip still dark. Feet more of a green lead-colour. Mouth orange.

Third Year.

Third Winter Plumage.—Very like the adult, but the dark markings extend further down the neck to the shoulders, and are also still marking the sides of the breast. *Sometimes* the bastard wing and some of the primary coverts are still marked with black: this is not a rule. The bill is gray-green, inclining to lead-colour, sometimes yellow-green, a dark bar across it at the angular knot; about this angle and the tip canary-yellow. Feet greenish lead-colour.

Fourth Summer Plumage.—As the adult, but that the bill is greenish yellow at the base, the tip brighter yellow, the dark bar sometimes crossing the angle like a cloud, sometimes replaced by a gray shadow. Feet green-gray, tinged with yellow. Sometimes the head and neck retain a few of the mottles of winter. Feathers generally old and worn.

Fourth Year.

Fourth Winter Plumage.—Very like the adult, but that the bill is greenish gray at base, sometimes yellowish gray, yellow at the tip; the dark bar crossing the angle is now a mere spot or is represented by a cloud of gray. Feet green-gray, slightly tinged with yellow.

Fifth Summer Plumage.—Very similar to the adult. Bill yellow, tinged with grayish, at the angle generally of a dull stony tinge. Feet not so yellow as the adult; under parts *plain white.*

The irides for these four years are brown, gradually paling each season in colour.

The primary wing-quills are different to those of the adult till the fifth autumn, after which they closely approximate: I fully describe them in my account of the plumages.

Fifth Year.

Fifth Winter Plumage.—No very striking difference from old adults. The yellow of the bill and feet are hardly so bright, and the markings of the head and neck are generally more extended and smudgy. I consider it adult from this time.

Sixth Summer Plumage.—Identical with the adult at the same season. Breeds this year. It is five years old.

Adult Years.

Male and female similar in plumage; the female, as a general rule, is considerably smaller every way than the male.

Spring and Summer.—Head, neck, throat, tail with its upper and under coverts, under wing-coverts, tips of scapular, secondary and tertial quills, unsullied white. Back, scapulars, rump and wing-coverts, lavender. Under parts salmon-colour or delicate rose-pink. Bill and feet deep canary-yellow. Orbits red. Mouth and lips orange-red. Irides cinereous-gray or pale drab, full of little flecks of silver.

Winter.—Head and neck mottled with black. Bill and feet not so intense a yellow. Orbits duller red. Under parts more tamely tinted with salmon-colour.

ACCOUNT OF THE PLUMAGES.

No. 1. *Young in Down.*—The down is grayish, irregularly blotched and streaked with brown and black. Feet dull flesh.

No. 2, Link 1. *First Moult.*—A mixture of the down and the first plumage. The down remains some time attached to the tips of the feathers of almost all sea-fowl.

No. 3. *First Plumage.*—We find this plumage during part of June, July and August; the common gull being an early breeder, like the blackhead.

Upper or Celestial Surface.—Head: the basal half of the feathers dull white, top portion brown, the edges pale. Neck similar, but the brown more extended. Before the eye many black bristly hairs; the feathers about the eye smoke-colour. Back, scapulars, rump and lesser coverts of secondary quills—concealed portion of the feathers white, exposed part brown, edges pale; the rump often is tinted with lead-gray. Tail, two-thirds of the basal portion white, remainder black, forming a deep band at end; extreme tip of the feathers pale; sometimes where the black and the white meet the white is clouded, rarely mottled with black. The greater coverts of secondaries dull gray, with a brown tinge; primary coverts dark brown; upper tail-coverts white, barred irregularly with brown. Secondary quills dark on the outer web; the inner web pale gray or whitish, a blotch of brown near tip; tip white.

Under or Terrestrial Surface.—Chin white. Throat, sides of neck and the sides of the breast and flanks white, irregularly marked with brown. Centre of breast and belly white. Under tail-coverts white, often with transverse dark markings. Feet dark flesh; instep or front of tarsus brown; ankle tinged with livid. Bill flesh at base, black at point. Inside of mouth and lips livid flesh-colour. Irides brown; orbits dark.

Type of the Primary Wing Quills.—First six blackish brown, getting grayer and the gray more extended, consecutively, from the pen upwards through the filaments of the inner web; the same occurs in the outer web, but not so bold or conspicuous. Seventh and eighth may be called gray, with more or less of a dark end and white tip. Ninth and tenth more subdued than the two preceding; often the end of the tenth is all white; part of the outer filament at the edge is brown. These quills remain till the following autumn, the bird being then more than a year old: they of course bleach and wear with the seasons, and consequently their appearance changes considerably. To follow these bleachings would be endless and unnecessary here—unnecessary because the quills cannot be confounded with any other age, each year having quite a distinct primary-quill plumage. At any time in its first year the quills will distinguish it. The secondary quills also vary more or less, but are also quite distinct in the second year.

No. 4, Link 2. *First Autumn or Second Moult.*—The moult begins in August, extending sometimes to December and January. The head, neck, some of the back and scapular plumage, the throat, breast and belly, alone partake in this moult. The new feathers of the back and scapulars are the colour of the adults; those of the other parts but a purer and more solid feather than that of first plumage.

No. 5. *First Winter Plumage* (from a well-developed bird shot in the month of December). *Celestial Surface.*—Head and neck white, each feather having a spot of black at the tip; towards the shoulders these spots assume more the appearance of blotches; before the eye is clouded with dark—there are many black hairs before it. The difference in this part of the plumage is not very striking from that of first plumage, except that the markings are better defined and of a darker colour. The back and scapulars consists of three kinds of feathers: *first,* many of the first plumage's brown feathers; *secondly,* some of the brown feathers of the first plumage transmuting by change of pigment to lavender (these feathers appear gray, shaded and marked with brown); *thirdly,* those assumed by moult, which are, as the adult, lavender. It is extremely rare to get a first winter common gull with the back and scapulars all lavender, as is the case with the blackhead, these birds differing strikingly this way in their first winter. The rump is much more lead-colour, as are also the greater coverts of the secondaries. The remainder of the celestial surface, tail and quills as in first plumage, but of course, as the year advances, more faded.

Terrestrial Surface.—Has been, all but the under wing and tail-coverts, renewed by moult. Differs little but in the better quality of the feathers, the greater purity of the white and the greater definity and darkness of the markings. The base of the bill has changed to green or livid flesh-colour, the feet also becoming greatly suffused with that colour.

No. 6, Link 3. *First Spring.*—I may say that since August there has been almost an incessant dropping out and replacing by moult of individual feathers; after December this cannot be called a moult, for from that time the bird seems to have some rest in its plumage, but with April and May the same gradual moult begins again, extending itself this time to the feathers that have not been affected before, *viz.* the secondary coverts and the remaining brown feathers in the back.

No. 7. *Second Summer* (from a bird killed in June). *Celestial Surface.*—Head and neck similar to the last winter. The entire back, scapulars, rump, and a very large proportion of the lesser coverts of the secondaries, the dark lavender of the adult, perhaps approaching more the lead-colour of the kittiwake; like that bird, too, the central parts of these coverts have not moulted yet, and thus form a brown bar through the wing. The tail and the wing-quills have not as yet began to moult.

Terrestrial Surface.—The dark markings have considerably decreased. The bill is greenish lead-colour at the base; the feet also of this colour. The irides and the orbits brown. The mouth yellow flesh-colour.

No. 8, Link 4. *Second Summer and Autumn Moult.*—The general moult begins in July, though sometimes earlier, and extends into October; by November it is always perfected. All the plumage is renewed at this moult, even that which came in the spring past. The primary quills and the tail are generally the last feathers assumed, the primaries commencing at the tenth quill,—in other words at the carpus,—renewing in succession to the first, which is frequently incipient when all the rest are matured; the tail generally comes all at once, and normally is pure white. Sometimes its growth is premature, coming in June or July; it often then, and I should say very naturally, resumes an abnormal appearance; that is, it is irregularly spotted at the end with black, which is retained in cases all through the winter. This abnormity is caused by the partially immature state of the pigment or colouring matter; the bird being under the normal age of assuming a particular coloured plumage must unite the pigmentary fluids of both ages, thus accounting for the dark spots. It would be out of place here to speak further on the subject of moult, pigmentary influences, transmutation and regeneration of plumage without moult, albinoism, real and bleaching, &c.; besides it would take this letter to undue bounds: at some future time I will relate some curious facts and dissections relative to these subjects.

No. 9. *Second Winter Plumage. Celestial Surface.*—Head and neck white, the former speckled, the latter blotched with black: this appearance is caused by each feather, which is white, having a spot or blotch of black in the centre and tip; when first assumed the fringes of the feathers are also pale whitish. Immediately before the eye are a patch of black hair-like feathers; in the region of the eye the speckles are generally closer and smaller. The dark markings of the neck extend well down to the shoulders, where they almost form *a collar.* The back, scapulars, rump, tail-coverts, tail and the secondary quills as the adult. The secondary coverts are dull lavender-gray, generally *dulled with brown,* being marked along the margin, as also sometimes the tips of the large secondary coverts with that *colour.* The bastard wing and its appendages, and also the primary coverts, *lead-gray, strongly and irregularly clouded and marked with black;* margin from the carpus white, *marked with black.* Some of the tertials occasionally have a black spot or two.

Terrestrial Surface.—Region of the chin white, as is the very centre of throat; the sides of the throat marked like the head; the breast and part of the sides are *marked with black.* Belly, vent, under tail-coverts and under wing-coverts white, the latter lightly marked with *brown,* particularly along the margin. Bill green lead-colour at base, dark at tip, rarely being slightly tinged with yellow at the tip and angle. Feet leaden gray-green. Irides and orbits brown. Moults yellow-orange.

Type of the Primary Quills.—1, 2, 3, 4, 5, no white tip; 6, 7, 8, 9, 10, have white tips; 1, 2, have each a large white spot after the black tip, the spot of 1 being larger than that of 2; in 1 it includes the shaft, more or less; in 2 the shaft is black; each of these spots is more or less margined with black at the fringe of the greater web, and sometimes also in the lesser web: 3, 4, 5 have no such spot, but in 4, 5, 6, where the black and gray of the feather should meet, there is a more or less distinct cloud of white. In the rest of the quills, 7, 8, 9, 10, this cloud and the tip are all in one. The leading colour of 1, 2, 3, 4 is black, 3 having no white at all, but from the pen, in all, upwards (towards the tip) gray usurps this colour, increasing in volume consecutively, forming more than half of both webs of 4, and becoming the body colour of 5, 6, 7, 8, 9, 10. After the white tip in 6 the end is black for about one inch, this constituting nearly all the black in the feather, except at the fringe of the outer web. 7 has always a large or small spot or bar of black on one or both webs at the end; 8, 9, 10, all gray, ends white.

Variations—The primary markings are more variable at this than at any other age: but the year is at all times branded on the wing by the dark markings on the coverts. The most frequent variations are noticed in the depth and extent of the white markings. The white spot in 2 is often only apparent in the greater web; 4 and 5 I have rarely seen with incipient white tips; 8 I have seen with more or less black at the end; 1 not having the shaft white in the spot. The shafts of 1, 2, 3 are black; in the rest they consecutively become from dark to light horn-colour. Fading and wear frequently change the colour of the dark portions, often making false dirty white tips to the feathers, merely the effect of fade, and as often wearing away the black ends till they become very short.

No. 10, Link 5. *Second Spring Plumage.*—Is but a continuation of the winter dress, generally speaking more faded. The orbits are more of a mahogany colour; the mouth redder and the bill more tinged with yellow.

No. 11. *Third Summer Plumage* (June, July).—Very much faded and worn, same as in the winter past, but that many of the spots on the head and neck, and some of the markings of the breast, have either bleached or worn off. The orbits are of a better red, as is also the mouth; the bill is yellow at the angle and tip. The feet are green lead-colour, tinged on the front with pale stone-colour.

No. 12, Link 6. *Third Summer and Autumn Moult.*—Commences as early as June and July, is generally completed by September or October. In the interval between these months the bird is more or less in the new or old plumage, and not to be confounded with any other age.

No. 13. *Third Winter Plumage* (from a bird shot in October). *Celestial Surface.*—Not very dissimilar from the adult. The markings of black on the head and neck are, however, more crowded and blotchy, *extending further down the neck and the shoulders.* The bastard wing, the margin and also some of the primary coverts are occasionally, but rarely, marked with dark, these parts in general being as the adult. The primary quills differ from the adult. The bill is *grayish or yellowish green at the base, crossed at the region of the angle by a bar or cloud of black,* the tip region being yellow. The feet are *grayish green,* not uncommonly tinged with stone-colour. Orbits mahogany; irides *brown.* Mouth orange-red.

Type of the Primary Quills.—Though the difference between the primary quills of this age and that of two years old is very plain, still there is such a strong resemblance that it will be only necessary for me to point out the distinctions without entering on a separate description. In all the quills we have the tip represented by a genuine and naturally white spot. In 1, 2 we have the same white spots as in the second year, that in 1 being much more developed, and rarely fringed on either web with black. The whole cloud in 4, 5, 6 is much better developed, and almost separates the gray from the black of the feather; at all events in the greater web. The gray, which increases consecutively in each feather, is considerably more usurping of the black, purer, less sullied and clouded by dark markings; 7 is also marked at the end with more or less black.

No. 14, Link 7. *Third Spring Change.*—The feathers of the head and neck lose the dark markings, turn white partly by moult, partly by transmutation. The sides of the breast begin to discard any dark markings they may have had. The bill, orbits, irides and feet are changing to a more mature colour.

No. 15. *Fourth Summer Plumage* (June).—The head and neck have become, like the adult in summer, pure white. The under surface also has become *pure white,* in this respect *unlike* the adult. The bill is generally *dull yellowish* at the base, canary-yellow at the tip, *the dark bar at the angle* represented either by a dark or a stone-coloured cloud. Irides a paler brown. Orbits orange-red. Feet dull yellowish green, tinged with stone-colour.

No. 16, Link 8. *Fourth Summer and Autumn Moult.*—Begins in July; is completed in October. There is little remarkable, except the assumption of the new speckled feathers of the head intermixed with the old white, and that the new feathers of the breast and belly are very faintly tinged with obscure salmon-colour. Unity of feathers alone causes this tint, for no trace of it can be detected on a solitary feather. Can be always known from the adult by the bill and feet.

No. 17. *Fourth Winter Plumage* (November). *Celestial Surface.*—Differs but little from the old adult; the markings on the head and neck are not so neat, and are more extended towards the shoulders. The primaries are still different from the adult.

Terrestrial Surface.—Like the adult, but the salmon-colour tinting seems only to shine out of the feather, and is not perceptible except the feathers are in unity. The orbits are dull red, the irides something like the adult. The bill is a gray-yellow, inclining to stone-colour at the angle. The feet are dull yellow, inclining to stone-colour tinted by a succession of numerous small dottings of green.

Type of the Primary Quills.—Do not differ very essentially from the third-year primaries; like them all end with a white spot. Nos. 1, 2 have the second white spots, but are more developed than last year. No. 2, unlike that of last year, has often the shaft white in the white spot. The white separating the gray from the black in 4, 5, 6 is very intense and as white as snow; it also, unlike last year, includes the shaft contiguous, in its *pure colour.* No. 7 is quite devoid of black, and, like 8, 9, 10, lavender-gray with extensive white tip.

No. 18, Link 9. *Fourth Spring Moult.*—The head and neck moult to pure white; the orbits change to vermilion; the feet and bill to yellow, still showing a green tinge.

No. 19. *Fifth Summer Plumage.*—Very much as the adult. The bill and feet are not of so good a colour, nor the eye so bright. The breast and belly are not so rich a salmon-colour. Individuals may breed at this age, but from having met them away from the breeding haunt in the breeding season, and from finding no eggs in the ovaries, I have always been under the impression that they do not breed till the following summer.

No. 20. *Fifth Autumn Moult.*—Is over in October, when the bird presents all the appearance of the adult in winter.

No. 21. *Adult in Winter. Celestial Surface.*—Head, neck and sides of throat white, delicately and distinctly marked with black, the order of markings being a dark spot on a white feather; before the eye many black bristles. The shoulders white, as are also the tail and its upper coverts. The back, scapulars, rump, wing-coverts, also the tertial and secondary quills, lavender-gray; the tips of the scapular quills, those of the tertials and secondaries, and the margin of the wing for its entire length, white.

Terrestrial Surface.—Except the sides of the throat, which are speckled with black, the entire under parts are white, the breast and belly being tinged with delicate maize or salmon-colour. Bill and feet are of a uniform *dull yellow*, not unfrequently tinged with *stone-colour or gray*, the feet sometimes having a faint tint of green through the yellow.

Type of the Adult Primaries.—There is not a very striking difference in the adult quills from those of the fourth and fifth year. The white tips are more developed; the large white spots in 1 and 2 more extended (generally), that in 2 including the shaft, as well as the fringes of both webs. The white clouds in 4 and 5 very conspicuous and pure. The gray and black very intense and decided. No. 6 has generally no dark markings, unlike any immature age, but, with 7, 8, 9, 10, is lavender-gray, with an extended white tip. It will be seen that as the bird advances in age the white spots at the ends of the quills become more developed, as do also the second spots in 1 and 2; that the white cloud in 4 and 5 becomes purer and better seen, and that all dark markings leave the 8th, 7th and the 6th quill, giving them the gray and white character of 9 and 10.

As each set of quills lasts a year, some difference of course is caused by the tips wearing off; late in the year the white tip is frequently quite worn away.

No. 22. *Adult Spring.*—The head and neck transmute to white; the bill, feet, orbits and irides are changing to a purer colour.

No. 23. *Adult in Summer* (May).—An unseen change, because there has been no moult, has taken place in the whole bird. The plumage has rejuvenated and repigmented, looking fresh and blooming. The head and neck are now unsullied white, as are also the sides of the throat; the other parts of the plumage as in winter, but more beautiful, if such could be possible: the breast and belly are vividly suffused, like a sunset tint, with maize, salmon, or rose-colour, the latter much the rarest; I have never seen these parts white. The bill is *bright pure chrome-yellow.* The irides are *cinereous or drab-gray, full of little particles resembling silver dust.* The mouth red-orange. The feet are *intense canary-yellow.* The orbits are vermilion.

In autumn the whole plumage is renewed by moult; the old skin or cuticle of the feet falls off, and is replaced by that bearing the winter colour.

I cannot conclude this letter without some remarks on the careless way that *publishing* naturalists describe the feet, bill, and other fading parts of birds. An hour will make a difference in the bloom, a day destroy the colour of these parts. It is, therefore, necessary to note at *once* the colour of the feet, bill, irides, orbits, mouth, cere, &c., of whatever bird is for description. Do not trust it to memory or even to words, if possible paint it. I use a few water colours in a little tin box, with a white enamelled pallet—quite light and portable; so I can defy any fish or bird to make a fool of me by changing colour. I am sorry to say I think most writers either copy each other, or describe these parts from a dried skin, making calculations for change of colour; or else they describe immature as adult birds. Supposing that I am a young beginner in Natural History, and seek information with avidity, I want the colour of the feet of the adult common gull, I own a lot of "good" works on Natural History, I refer to them and the following is all I learn:—

Latham, Syn. Birds. Legs (!) dull greenish white.

Pennant, Brit. Zool. Legs (!) dull white, tinged with green.

Montagu, Orn. Dict. Legs (!) dull white or tinged with green.

Newman's Montagu. Same.

Macgillivray, Brit. Birds. Winter. Feet deep green-gray. (No account of the summer given).

Jenyns, Brit. Vert. Winter, legs (!) greenish gray, the webs blotched with yellowish. Summer, legs pale ochre-yellow, spotted with bluish ash (fourth summer).

Atkinson's Compendium. None.

John's Brit. Birds. Feet greenish ash (fourth winter).

Thompson, Nat. Hist., Ireland. Tarsi and toes brilliant yellow. (In other parts this clever author falls into error by making his birds adult too soon).

Jardine. Greenish gray.

Yarrell. Dark greenish ash.

Notes by the Author.—Of course being ignorant I should follow the majority and be led astray. These errors may arise from the habit of quoting, or from making an account when the part has changed colour, or from, as I said before, describing the adult from an immature bird. It is with no disrespect I refer to these authors, or to correct errors in their writings, which would occupy these pages for years, but only to show the British zoologist that he need not *yet* go from home to do a little good towards a true history of this particular branch of Ornithology. The heading of this letter speaks my sentiments, my hopes. It should be a comfort and a solace to the naturalist, tied down by many a reason to his native land. It should be one matter, that one confirmed or new fact in British Ornithology is worth a cabinet full of foreign skins. Instead of egg taking and breaking,—the curse, I emphatically state it, the curse against the progression and increase of species,—the curse that has thinned our noble sea-fowl,—remorseless slaughter of birds that a child could kill, either for pleasure or emolument,—the picking off of every poor stranger that storm or the increasing design of Nature has driven to our shores,—which seem now the most noble pursuit of the British ornithologist:—instead, I say, of these, if a deeper attention was paid to the habits, the ways, the secret life of birds, the result would be different: beautiful and wonderful knowledge *versus* egg-midwives, abortive bird-stuffers, and accounts of butchery or the amount of feathers in the stomach of every poor grebe that is shot.

HARRY BLAKE-KNOX.

Dalkey, County Dublin.

Errata.—Letter V., page 625, *for* "Kingston," *read* "Kingstown." Page 628, first line, *for* "from slowly moving clouds of smoke," *read* "form slowly moving clouds like smoke."—*H. B.-K.*

Ornithological Notes from the Isle of Wight.

By Captain HADFIELD.

(Continued from Zool. S. S. 987.)

OCTOBER, 1867.

Sky Lark.—October 8. Larks observed in flocks. The thermometer had fallen fifteen degrees between the 2nd and 4th.

Grasshopper Warbler.—Has occasionally been met with. On the 11th one rose close to me in a turnip-field and alighted on a hedge, into which it quickly crept out of sight. The elongated tail and wavering flight reminded me of the Dartford warbler.

Linnet.—October 11. First seen flocking together.

Wood Wren.—Occasionally observed towards the middle of the month.

Redwing, &c.—October 20. A small flock passed over the town in a northerly direction, and on a subsequent day a few fieldfares were observed.

Wood Pigeon.—October 23. A very large flock rose from an oak wood near Brading, having been disturbed by a passing train: this is recorded, because flocks containing some hundreds are seldom met with in the island. These birds are now in fine condition: a female lately shot weighed a pound and a quarter; its crop contained both wheat and vetches, in about equal proportions; the moult had apparently but recently commenced about the neck, but the central tail-feathers had attained to within an inch or so of their full length; the third primaries and the first secondaries were the only quills in the course of renewal, and they were but half-grown.

Martin.—Though the main body has migrated, still martins are to be seen in considerable numbers in the Undercliff, but not out of it; for instance, on the 23rd not one was observed between Shanklin and Ryde, but the following day many were seen at St. Laurence hawking and sporting about in circular and undulating flight, as their habit is. They are, I believe, mostly birds of the season.

Swallow.—October 24. Though less numerous than the martin, they are still to be met with in the Undercliff, but they are chiefly young birds, the tails but slightly forked. That the mildness of the season is the chief attraction there can be no doubt; but the shelving inland cliffs, full of fissures and holes, afford them ready refuge from the storm, as well as safe roosting quarters. Their food is still abundant, as flies and gnats are swarming.

Great Northern Diver.—One was seen off Shanklin lately.

Woodcock.—Have heard of one being found.

NOVEMBER, 1867.

Snipe.—November 5. Several snipes seen to-day, there having been a sudden change of wind from south-west to north-east, which has brought the glass down to 43°.

Sparrowhawk.—November 5. One observed to-day, the first seen for some time, though formerly commonly met with.

Partridge.—A large covey again observed; though too wild to be readily counted, I am told that it still contains twenty-eight birds. The flocking together of partridges this season is very remarkable, and when once on the wing they will fly a mile or more. The sense of hearing in the partridge is wonderfully acute, for they will take wing before one gets within two or three hundred yards of them, and that too without a word being spoken, or even a whistle: I say the sense of hearing, for in a turnip-field seeing one at such a distance is impossible. They have been frequently found this season in the grass-lands, where they roost when sufficiently open and bare of trees.

Cuckoo.—I have lately seen a caged cuckoo belonging to a butcher at Ventnor: it was taken from a hedgesparrow's nest early in the summer, and fed on raw beef, on which it has continued to thrive. Though very tame it is rather pugnacious, and emits a hissing noise, and has already learned to imitate the barking of a dog. Though it has lost its tail-feathers, I do not see that the moult has commenced, the plumage of the neck and back being still marked with light red, reddish white and brown.

Fieldfare.—Not observed in this neighbourhood till the third week in October; but I see that a correspondent (Zool. S. S. 989) reports having met with them about a month earlier (on the 25th of September). I might not perhaps have questioned this, though the date is an early one, had it not been stated that they were seen by two other persons, for that looks as if the writer had been in doubt: if so, the question is, are the individuals referred to well acquainted with the fieldfare and its manner of flight? If not, I shall be inclined to think it may have been the missel thrush, a bird about the same size and not very dissimilar in plumage or manner of flight. I lately saw a small flock, which in the distance might readily have been mistaken for the fieldfare.

Rednecked Grebe.—A handsome male was captured off Shanklin towards the end of the month in a very strange way. A boatman, well known to me, found the bird preening its feathers, and so intent was it in performing its morning's ablutions that it allowed the boat to approach within a few yards—close enough for the man to strike it a stunning blow with a boat-hook or oar. I had no opportunity of seeing it, it having been sent out of the island to be preserved, but I am told it was a splendid specimen.

Redthroated Diver.—First observed towards the middle of November.

HENRY HADFIELD.

Ventnor, Isle of Wight,
December 10, 1867.

Notes on the Folk-lore of Zoology. By EDWARD R. ALSTON, Esq.

(Continued from S. S. 1008.)

Nightingale.—I need do no more than allude to the old poetical fable of the Queen of Song leaning her breast against a thorn, whence the plaintive melancholy of her notes. The ancients also believed that the nightingale never slumbered, and Ælion adds that its flesh was believed to cause sleeplessness in those who partook of it.

Skylark.—In Scotland the skylark and the linnet are on the bird-nester's free-list:—

"The lav'rock and the lintee,
The robin and the wren,
If ye harry their nests
Ye 'll never thrive again."

The Scotch and old English name of "laverock," used by Isaac Walton, is derived from the Anglo-Saxon "læverk." The idea that the lark changed eyes with the toad has been noticed by Mr. Harting (Zool. S. S. 421).

Yellow Bunting.—A strange and unaccountable prejudice against the "yellow-yite" or "yellow-yorling" exists in Scotland, as evinced in the following popular rhyme, several versions of which are given by Chambers:—

"Half a paddock, half a taed,
Half a yellow-yorlin',
Drinks a drap o' de'il's bluid
Every May morning."

Crossbill.—The Thuringian mountaineers, says Bechstein, believe that this bird takes upon itself any illness or pain that may afflict its master, and accordingly it is a favourite cage-bird with them. If the upper mandible turns to the right it has the power of relieving the male sex, if to the left the female, of their ailments. They also regard the water left in its drinking-glass as a specific against epilepsy. A pretty German legend, paraphrased by Mosen, has been translated by Longfellow. It relates that a little bird attempted to release our Lord from the cross, in reward for which

"—— The Saviour spake in mildness,
'Blessed be thou of all the good!
Bear in token of this moment
Marks of blood and Holy Rood!'

And that bird is called the crossbill,
Covered all with blood so clear,
In the groves of pine it singeth
Songs, like legends, strange to hear."

Raven.—The raven was sacred to Thor; two, named Hugin and Munin (Thought and Memory), sat ever on his shoulders, and were sent daily to spy the times and bring news to their lord. (Simrock, Handb. der Deut. Myth.) Hence the dreaded raven-flag of the Danish Vikings, and hence the bird is still held sacred in Norway and Sweden, where the peasants will hardly kill one. In other lands the raven is generally detested as a bird of evil omen, as Mr. Harting's extracts from Shakspeare sufficiently show (Zool. S. S. 465). Marlowe also, in the 'Jew of Malta,' sings of

" —— The sad-presaging raven that tolls
The sick man's passport in her hollow beak,
And in the shadow of the silent night
Doth shake contagion from her sable wings."

To Mr. Harting's notes I may also refer for an account of the mysterious nourishment of the young ravens.

Hooded Crow.—The following popular rhyme celebrates the destructiveness of this bird:

" The gule, the Gordon, and the hoodie craw
Are the three warst things that Moray e'er saw."

The "gule" is a noxious weed, while the raids of the Gordon clan were probably more destructive than either of the other two. Another version substitutes the "water craw" or water ouzel, which was believed to be destructive to salmon-spawn.

Magpie.—A very old superstition augurs good or evil from the number of magpies seen in company (Harting, Zool. S. S. 471). Singularly enough the deductions are contrary in England and in Scotland. In the former:—

" One is grief, two is mirth,
Three's a marriage, four's a birth."

But in the "land o' cakes":—

" Ane's joy, twa's grief,
Three's a wedding, four's death."

In many parts of Northern Europe the magpie is a protected favourite, and there it lays aside much of the shyness which characterizes it in

Britain, building in low bushes close to the peasant's houses. But perhaps the most extraordinary instance of superstition in a highly educated people of the nineteenth century is that mentioned by the Rev. J. G. Wood (Pop. Nat. Hist., vol. ii. p. 412), as follows:—"In the latter part of 1860 an official dispatch was presented to the Chamber of Deputies of Dresden, requesting a supply of magpies for the purpose of manufacturing a powder all potent against epilepsy. Great stress was laid on two points, that the birds must be neither deficient in claws nor feathers, and that they must be shot between the 24th of December and the 18th of January. This extraordinary document was not only presented and read in good faith, but was backed by many noble names." Unfortunately Mr. Wood neither mentions the result nor gives his authority.

Great Black Woodpecker.—This species is called "Gertrude's bird" in Norway, and the origin of the name and of the colours and habits of the bird is related to be, that Gertrude was an old woman of Palestine, who refused bread to our Lord and St. Peter; in punishment for which she was changed into a bird and flew up the chimney, and to this very day you may see her flying about "with her red *mutch* on her head, and her body all black because of the soot of the chimney; and so she hacks and taps away at the trees for food, and whistles when rain is coming, for she is ever athirst, and then she looks for a drop to cool her tongue" (Dasent, Norse Tales). Here we have another version of the tale told of the owl (Harting, Zool. S.S. 412, 1006): both are perhaps older than Christianity itself, for, as Mr. Dasent has shown, most of these legends of the wanderings of our Lord and St. Peter are merely adaptations from the old Northern Mythology.

Wren.—As already mentioned (Zool. S. S. 1007), the wren is held, in rustic tradition, to be the wife of the robin; but, if we may believe a curious old Scotch song, in Herd's Collection, she is no faithful wife, being accused of an intrigue with the "ox-e'e" (ox-eye, great titmouse). Robin asks

> "And where's the ring that I gi'ed ye, that I gi'ed ye, that I gi'ed ye,
> And where's the ring that I gi'ed ye, ye little cutty quean, oh!"
> *Wren.* "Oh, I gi'ed it tae an ox-e'e, an ox-e'e, an ox-e'e,
> I gi'ed it tae an ox-e'e, a true sweetheart o' mine, oh!"

Like the robin, the wren is sacred to bird-nesters: an old Scotch couplet invokes

"Malisons, malisons mair than ten
That harry the Ladye of Heaven's hen!"
(*Chambers*).

In the Isle of Man, says Simrock, the wren is hunted at Christmas, and any feathers she may drop in her flight are preserved as a charm against shipwreck in the ensuing year. I find another account of this superstition in a little work locally printed ('A Sailor-boy's Experience,' Hamilton, 1867), where it is stated that the bird is caught, and some feathers plucked and tossed up in the air, when, according as they fall or are carried away by the wind, the success of the herring fishery is prognosticated. The Germans call the wren "taunkönig" (the hedge-king), and relate that it is the monarch of all flying creatures. A curious story in Grimm's Collection relates how the wren was insulted by the bear, and how it won a victory over the assembled army of the quadrupeds by the help of the gnat.

Hoopoe.—In Sweden the hoopoe is believed to be the harbinger of war, and even in this country its visits are said to be evil omens.

Cuckoo.—Very numerous and widely spread are the popular fancies and superstitions regarding this mysterious bird. "Sacred is the spot," says Simrock, "where you first see the swallow or first hear the cuckoo in spring; therefore you must stand still and dig up the ground in this place, for it has healing powers. The cuckoo is also termed the "time-bird" (Zeitvogel), for he can tell what span of life is allotted to us, or how long a maiden must wait for her husband, and Goëthe has pre-historic authority when he makes him also foretell the number of her children." (Handb. der Deut. Myth. p. 541). So also in Scotland, where it is lucky to be walking when the cuckoo is first heard, sitting when the swallow is first seen, and to see the first foal of the year walking in front of its mother:—

"Gang and hear the gowk yell,
Sit and see the swallow flee,
See the foal afore its mither's e'e,
'T will be a thriving year wi' ye."

The Scotch name of "gowk" or "golk," also used in some parts of England, is said by Jamieson and other Scotch scholars to be allied to the ancient Swedish "goek" and the Icelandic "goukr." Broderip derives it from the bird's midsummer note, "an indistinct gowk." ('Zoological Recreations,' p. 79); possibly this may be the origin of all these names. My friend Mr. Gray writes me that, in the Hebrides, "If anyone hears the call-note of this bird for the first time after its arrival *before breakfast*, it is looked upon as a foreboding of death to that individual. The Hebridians, therefore, are most careful, at the time the cuckoo is expected, not to go out of doors before taking that meal." In Martin's curious 'Voyage to St. Kilda' (London, 1698), it is stated that the cuckoo is only seen there "upon extraordinary occasions, such as the death of the proprietor, Mack-Leod, the steward's death, or the arrival of some notable stranger." At first Mr. Martin was inclined to doubt this, but on making inquiry he learned that the cuckoo had been seen "after the death of the two last proprietors, and the two last stewards, and also before the arrival of strangers several times," which evidence seems to have convinced him, as it doubtless will the readers of the 'Zoologist.' In many parts of Britain popular belief brings the cuckoo through various wonderful transformations, starting as the inhabitant of the white froth known as "cuckoo-spit" (formed by the larva of Aphrophora spumaria), and ending by changing it into a hawk. Several English popular rhymes give a good account of its life-history; these have been so often quoted that it will be needless to repeat them here.

Kingfisher.—Yarrell's remarks ('British Birds,' vol. ii. p. 210) and Mr. Harting's notes (Zool. S. S. 533) have nearly exhausted the superstitions concerning the halcyon's floating nest and its inexplicable power over the boundless winds; it was also believed that its embalmed body moulted annually, but Aldrovandus was unable to observe this in one suspended in his Museum. The ancients preserved its dried body as a safeguard against thunder and family quarrels, and the Tartars are said to use its feathers as a love-philter.

Swallow and Martin.—On the interesting subject of the "swallow-stone" I cannot do better than refer to Dr. Lebour's remarks (Zool. S. S. 523), and to Mr. Harting's notes (Zool. S. S. 744). As already noted (under the heading Cuckoo) it is considered lucky in Scotland to be sitting when the swallow is first seen in spring: it also bodes good fortune when numbers of these birds build about one's house. Both species are very generally confused together, and the same belief applies to both. According to Lord Hailes, as quoted by Jamieson, the origin of the name of "martin," or "martlet," is that the bird "is supposed to leave this country about St. Martin's day in the beginning of winter."

Nightjar.—The old belief, to which this bird owes its names of

"Caprimulgus" and "goatsucker," is too well known to require further notice.

Pigeon.—The dove was the bird of Venus and Cupid, the type of love and chastity, of innocence and beauty. One species, the wood pigeon, is hence known in many parts of England and Scotland as the "cushat," or "cushie," which is said to be derived, through the Anglo-Saxon "cusceate," from "cusc," chaste. (Yarrell, 'British Birds.') The dove is sacred to Christians as the emblem of the Holy Spirit, and to Mahometans as the favourite of their Prophet, who is always represented with one perched on his shoulder (an attribute also of many of the mediæval saints). Hence it is protected in many countries, particularly in Russia and in Egypt. Sir J. G. Wilkinson, in his work on the 'Ancient Egyptians,' mentions an Arab legend which relates that the dove sent by Noah out of the ark returned with its feet stained with red mud, in memory of which all pigeons have red feet to this day.

EDWARD R. ALSTON.

Stockbriggs, Lesmahagow, N. B.,
January, 1868.

(To be continued.)

Albino Shrew (Sorex araneus).—September 2, 1867. Observing a playful young tom cat that we have, jumping and skipping about the yard with something alive that he was playing with, evidently neither bird nor mouse, but something light-coloured, I went to him, and found it was a white shrew he was diverting himself with, which he had caught in the field and brought home. It was running about before him, apparently not hurt: having succeeded in rescuing it from him without further injury, I permitted it to escape, of which permission it quickly availed itself, by making its way down through the grating of the cellar-window and into the outlet drain from the cellar to the wood opposite the house. The colour was rather a yellowish white, entirely concolorous, without any spots or markings indicative of its normal colour.—*James Bladon; Albion House, Pont-y-Pool, December* 27, 1867.

Albino Mole (Talpa europea).—A few years ago an albino mole was discovered, in a very curious manner, in a cottager's garden at Pontrewynydd, near this town (Pont-y-Pool). The owner was in his garden working, and observing a mole heaving the earth near him, waited for some time until he thought he had nearly ceased, struck at the hillock with a hoe he had in his hands, and actually cut the mole right through across the middle of the body into two nearly equal portions: he skinned both parts, filled them with cotton-wool, and kept them in a small paper box to show to his friend: it was of the same yellowish white tinge as the shrew alluded to above.—*Id.*

Bohemian Waxwing at Leiston, Suffolk.—I have just received a beautiful male specimen of the Bohemian waxwing, which was shot in the vicinity of a farm-house about a mile distant: it answers to the description given in Yarrell's 'British Birds,' with a few slight exceptions; the wax-like appendages, eight in number, are confined to the tertials, which are all tipped with them, the centre ones having the longest; the secondary and also primary quill-feathers having the yellow patch with a white margin on the outer web, which diminishes in size towards the first primary, which is without it.—*Edward Neave; Leiston, Suffolk, January* 16, 1868.

Hawfinches at Weston-super-Mare.—We have now a flock of hawfinches in our neighbourhood. Eight were brought to the local birdstuffer in one day. The hawfinch is a rare visitor to this part of the county, and is one of those birds the law of whose migrations is somewhat unaccountable. Flocks will suddenly make their appearance in a part of the country where perhaps only a single specimen had been observed during a long term of years, without there being anything particular about the season to account for their arrival. They will all at once be so numerous that every urchin who goes out to pop at small birds will be sure to number several in his bag. After remaining in the district a week or two the survivors will depart, and then nothing more will be seen of the hawfinch for years. The only explanation I have seen given of their appearances does not remove the difficulty involved in their uncertainty. It has been said that the hawfinch is a shy bird, preferring the thickest parts of woods and the most overgrown lanes and hedgerows, where, while the foliage is dense, it is able to escape notice, but that when winter lays bare its lurking places it can remain hidden no longer, and, leaving the woods, appears in flocks wherever it can meet with its favourite berries. If this were the case we should expect to see the hawfinch every winter. There is no explanation here of its irregular migrations, and of its suddenly appearing in numbers in a neighbourhood where before it had been almost unknown. —*M. A. Mathew; Weston-super-Mare, December* 21, 1867.

Small Birds Mobbing a Green Woodpecker.—Not long since I was walking in a lane, when a green woodpecker flew off a tree and was at once mobbed and chased by a number of finches. I watched until the woodpecker was out of sight, and all the time the small birds made angry swoops at it, and gave utterance to shrill notes of passion, as they often do when they are seeking to drive away their natural enemy the sparrowhawk. Was this sheer wantonness; or did the finches really take the harmless woodpecker to be some dangerous character?—*Id.*

Gathering of Starlings.—A somewhat curious circumstance which I observed in Sutherland has just recurred to my memory. When birdsnesting with Mr. Jesse last spring on the Badcall Islands, off the west coast of Sutherland, we flushed a lot of starlings from under some loose boulders and rocks. Being curious to see what had brought them there, we examined the holes and openings in these rocks, and were surprised to see a large quantity of fresh blood lying on one of the stones. We in vain tried to find out what had occasioned this, but, save the supposition that there had been a general battle among the males, we could come to no decision upon the matter. Perhaps some of your readers might have met with a parallel case, and be able to explain it.—*John A. Harvie Brown; Dunipace House, Falkirk.*

Late stay of Martins.—November 28, 1867. On the afternoon of this day, it being bitterly cold, I observed a pair of martins going in and out of an old martin's nest, apparently to roost there.—*John Dutton; Eastbourne.*

American Bittern in Pevensey Marshes.—On the 26th of November last a strange bird was flushed from one of the dykes in these marshes, and several people were soon in hot pursuit. Mr. Albert Vidler (who has contributed many rarities to the Avifauna of East Sussex) came out with his gun, and soon succeeded in shooting it. It proved to be a beautiful specimen of the American bittern (*Ardea minor*), which exactly agrees with Morriss's fine plate; indeed I never saw a more perfect resemblance. On comparing the two birds, the common and the American bittern, there is a very great difference, the former being much larger and much paler than the latter, the difference being perceptible at a glance, even were it not for the greater size. The cere of the latter is *pale green*, while that of the former is flesh-colour. It was exhibited at the first meeting of our newly-formed Natural History Society, and excited a great deal of attention. The following are the measurements, &c., taken from the stuffed specimen: length 21 inches; tarsus 3½ inches; foot 6¼ inches. I may here remark that "the descending streak of black down the arch of the neck" is peculiarly striking.—*John Dutton.*

Bittern (Ardea stellaris).—Two of these birds were obtained last week in the vicinity of Slapton Lea. The first was observed to settle on some reeds, and was approached and killed without difficulty. The second was procured in the evening, during flight time, at the Torcross end of the Lea. The latter is a very fine bird, and has come into my possession. On skinning I found it was an old male and immensely fat.—*G. F. Mathew; Barnstaple, December* 21, 1867.

Double-yelked Hen's Eggs.—One of our domestic fowls lately laid in six days three double-yelked eggs, which together weighed close upon 14 ounces; it afterwards laid two more about the size of duck's eggs: all of these five eggs were badly formed, having a pinched and contracted appearance at one end. Is not the size of these eggs very remarkable? I once had one which weighed three ounces and a half, and I remember thinking it very large at the time.—*John A. Harvie Brown; Dunipace House, Falkirk, January* 10, 1868.

Purple Sandpiper near Beachy Head.—December 18, 1867. Four of these graceful and pretty waders have been shot during last month, most of them on the rocks near Beachy Head. Last year I procured three about this time.—*John Dutton.*

Redcrested Whistling Duck near Braunton.—I have just seen, in our birdstuffer's shop, a very beautiful mallard specimen of this fine species, which was shot yesterday near Braunton. I was unable to ascertain whether it was in company with any others when it was killed, or whether it was a solitary individual.—*G. F. Mathew; Barnstaple, December* 21, 1867.

Great Northern Diver on the River Taw.—One of these birds was shot last week on the river Taw, near Instow, by one of the local boatmen.—*Id.*

Wide-awake Terns.—My friend Mr. E. R. Alston inquired what terns Dr. Collingwood referred to as breeding in such large numbers in Ascension. As no one has offered to answer, I may be permitted to ask an additional question. Do sooty terns breed in Ascension, and if so are those the terns which Dr. Collingwood refers to? I received a nest of eggs from Ascension this year, through Mr. Sim, naturalist in Aberdeen, which were taken at the former place by Dr. Sutherland, and the birds shot off the nest. From the description of the egg in Dr. Collingwood's paper (Zool. S. S. 983), I am inclined to think that the "wide-awake tern" is identical with the sooty tern. My four eggs resemble those of the Sandwich tern, but have a creamier tint in the ground-colour and a more purple hue in the blotches. They are very handsome indeed, and have a *rare* appearance about them.—*John A Harvie Brown.*

Sabine's Gull in Dublin Bay.—An example of this arctic Xema, in the first plumage, was shot off Kingstown Harbour on the 18th of September, 1867, by Mr. Walton T. K. Atkin, brother of the gentleman who shot one on the 28th of September, 1866. Both birds are closely similar, and are both preserved in the latter gentleman's collection.—*H. Blake-Knox; Dalkey, County Dublin.*

Sabine's Gull in the County Down.—A Sabine's Xema, shot off Bangor, County Down, in the second week in October, 1867, has been added to my museum. It is similar to that above, and in the first plumage.—*Id.*

Pomarine Skua at Eastbourne.—November 7, 1867. A few of these birds generally occur about our sprat season, which mostly commences about the 9th of November, but is, like all sea-fishing, very precarious, and did not this year begin at that time. Four specimens have been procured; as usual, all immature, and are in the hands of Mr. Bates, birdstuffer.—*John Dutton.*

Five Forktailed Petrels near Lynn, Norfolk.—In my last notes from this county (S. S. 1012) I referred to the abundance of storm petrels that appeared on different parts of our coast, after having gales, during the early part of October, and have now to record the extraordinary number of *five* forktailed petrels (*Thalassidroma Leachii*) all killed near Lynn, and, with one exception, immediately after the great storm on the 1st of December. To Dr. Lowe, of Lynn, I am indebted for the following particulars as to date, sex and locality, and was certainly not a little astonished to find this rare petrel all at once doubling the number hitherto known to have been killed in Norfolk.

November 14. A female killed near Lynn.
December 2. A male, Lynn Harbour.
December 2. A male, Seabank, between Lynn and S. Wootton.
December 7. A male, same locality.
December 14. A female, same locality.

Of these birds one has been placed in the Lynn Museum and the rest are all in private hands. From the same authority I learn that on the 5th of October Mr. F. J. Cresswell, of Lynn, saw nearly a dozen storm petrels (*T. pelagica*) skimming along over the water at the entrance of the Ouze; one of them, he says, passed within two or three yards of him when standing at the helm of his yacht.—*Henry Stevenson; Norwich December* 23, 1867.

PROCEEDINGS OF SOCIETIES.

ZOOLOGICAL SOCIETY.

December 12, 1867.—Dr. GRAY, V.-P., in the chair.

The minutes of the last Meeting having been read and confirmed:—

Dr. Peters communicated a note on the question of the homology of the quadrate bone in the class Aves, in which he controverted the view recently maintained by Prof. Huxley as to its supposed correspondence with the *incus* in the Mammalia.

The Secretary called the attention of the Meeting to the fact of an eland, bred in this country, having been exhibited by Lord Hill at the recent Cattle Show, being the first instance of the introduction of this animal to the meat-markets of Europe.

Mr. St. George Mivart read some additional notes on the osteology of Lemuridæ, in continuation of a former communication on this subject.

Dr. J. Hector communicated a notice of the discovery of an egg of the great moa (*Dinornis gigantea*) containing an embryo, found in the province of Otago, New Zealand, at a depth of about two feet below the surface.

Dr. Gray gave a description of a new spider monkey discovered on the affluents of the Peruvian Amazon, by Mr. E. Bartlett, and proposed to be called Ateles Bartletti.

Messrs. Sclater and Salvin communicated a list of birds collected at Pebas, Upper Amazon, by Mr. John Hauxwell, with notes and descriptions of new species. Mr. Hauxwell's collection was stated to have contained 135 species, four of which were considered to have been hitherto undescribed.

Messrs. Sclater and Salvin likewise communicated a list of the first collection of birds formed by Mr. H. Whitely, jun., in South-Western Peru, in the neighbourhood of Lima and Arequipa. The series consists of upwards of fifty species, many of them of great interest.

Dr. Gray made some observations on the skins and skeletons of the rhinoceroses in the British Museum. He believed that amongst these he had detected a skull belonging to a species hitherto undescribed, and proposed to call it Rhinoceros simocephalus.

January 9, 1868.—Dr. GRAY, F.R.S., V.-P., in the chair.

Professor Newton exhibited the humerus of a large species of extinct pelican from one of the Cambridgeshire fens, and stated that, in the opinion of himself and Mr. Parker, it belonged to a young bird, and that consequently it was probable that, at some remote period, the species not only lived but nested in this country.

The Secretary exhibited, and made some remarks upon, a drawing of a new species of Impeyan pheasant, taken from the original specimens lately purchased for the British Museum. It has been named, by M. St. Hilaire, Lophophorus l'Huysi.

Mr. Parker, F.R.S., read a paper on the osteology of the kagu (*Rhinochetus jubatus*), and after a critical examination of the structure, and a comparison of the sternum, coracoids and clavicles, with the same parts in other species, he concluded by observing that this bird might be regarded as the type of a distinct family, most nearly allied to Psophia and Eurypyga.

The Secretary read a note from Dr. Hartlaub and Mr. O. Finsch, with reference to a collection of birds from the Pelew Islands, and called attention to two new types belonging to the Fauna of these islands, for which the names Psammathia Annæ and Tephras Finschi were proposed.

A communication from Lieut.-Col. Playfair was read by the Secretary, relating to a collection of fishes made in Madagascar. Amongst these were two new species, and it was proposed to name them Gobius Grandidieri and Mugil Smithii respectively after the naturalists who discovered them.

Mr. Henry Adams communicated some descriptions of new species of shells collected in Mauritius, as well as descriptions of some new species from other parts of the globe.

Mr. Bartlett exhibited the skin of an otter from Sumatra, which gave rise to some discussion, on account of the singular appearance of the tail. As the skin lay upon the table, with the fur downwards, it was observable that a narrow groove or furrow passed down each side of the tail, meeting ovally at the extremity. Mr. Bartlett was of opinion that this was a natural peculiarity in the animal, having tried in vain to eradicate the furrow, and in this view he was supported by Mr. Blyth, and to some extent by the Secretary. Dr. Gray, on the other hand, considered that the peculiarity had been caused by a strong wire, over which the skin had probably been stretched, and had contracted in drying round the wire, and so formed the furrow which could not now be made to disappear.—*J. E. H.*

ENTOMOLOGICAL SOCIETY.

January 6, 1868.—Sir JOHN LUBBOCK, Bart., President, in the Chair.

Additions to the Library.

The following donations were announced, and thanks voted to the donors:—'Journal of the Linnean Society,' Zool. No. 38; presented by the Society. 'Bulletin de la Société Imperiale des Naturalistes de Moscou,' 1867, No. 1; by the Society. 'Zeitschrift des Ferdinandeums für Tirol und Vorarlberg,' iii. 13; by the Ferdinandeum. 'Tijdschrift voor Entomologie,' Ser. 2, Vol. i. Parts 3—6, Vol. ii. Part 1; by the Entomological Society of the Netherlands. 'Proceedings of the Essex Institute,' Vol. v. Nos. 3 and 4; by the Institute. Hewitson's 'Exotic Butterflies,' Part 65; by W. Wilson Saunders, Esq. 'On certain Scales of some Lepidoptera,' 'On the Plumules or Battledore Scales of Lycænidæ,' and 'Further Remarks on the Plumules or Battledore Scales of some Lepidoptera;' by the Author, John Watson, Esq. 'On the Lepidopterous Insects of Bengal;' by the Author, F. Moore, Esq. 'The Entomologist's Annual for 1868;' by H. T. Stainton, Esq. Newman's 'British Moths,' No. 13; by the Author. 'The Zoologist' for January; by the Editor. 'The Entomologist's Monthly Magazine' for January; by the Editors.

The following additions by purchase were also announced:—'Record of Zoological Literature,' Vol. iii. 'Naturgeschichte der Insecten Deutschlands,' Coleoptera, Vol. i. Part 2. No. 1.

Election of Members.

Alfred Newton, Esq., Professor of Zoology in the University of Cambridge; Stephen Barton, Esq., of Bristol (previously an Annual Subscriber); G. A. J. Rothney, Esq., of Addiscombe; and the Baron Edgar von Harold, of Munich; were severally ballotted for, and elected Members.

Exhibitions, &c.

The Rev. Douglas C. Timins exhibited a specimen of Charaxes Jasius bred (from a Continental pupa) at Winchelsea. Also, three abnormal specimens of Argynnis Lathonia, from the neighbourhood of Boulogne; one had the outer margin of the anterior wings strongly incurved, another had the right fore-wing of but half its proper size, and the third was remarkable from the suffusion of the black markings of the wings.

The Secretary read a letter from Mr. J. Caldwell, of Mauritius, dated Port Louis, November 3, 1867, respecting the occurrence of Papilio Phorbanta in Madagascar.

Referring to Trans. Ent. Soc., third series, Vol. v. p. 330, Mr. Caldwell wrote as follows:—

"Mr. Trimen considers it probable that, in the collection examined by Mr. Bates, I may have mixed up the Malagasy insects with the Mauritian. This did take place after I had packed those for England; but I may almost venture to state positively that those I sent home were *all* taken from the original Malagasy collection before any mixture was possible."

Mr. F. Smith exhibited two specimens of a Polistes captured at Penzance by a lady residing in that town; one specimen was caught in the summer of 1866 on the window-sill of a house, and three more were taken at the end of July or beginning of August, 1867, in the very same situation in the window of the same house. The insect did not agree exactly with any described species of Polistes, but appeared to be intermediate between the North-American P. biguttatus and the Brazilian P. versicolor. The captor suggested that they had probably been introduced in wood from a dock-yard situate about a hundred yards from her house; but Mr. Smith could scarcely believe that they were imported: the species of Polistes were not wood-boring wasps, but paper-makers, and their slight nests were attached to the outside of a tree, post, wall, &c.; untrimmed wood was not imported from America. (See the 'Entomologist's Annual' for 1868, pp. 87, 96).

Mr. Bates also had difficulty in believing that an insect with the habits of Polistes could have been imported; the nests were mere strings of cells hanging by a peduncle from the rafter of a house, a shrub, the trunk or branch of a tree; they were of loose construction, incapable of withstanding exposure. Such a nest could hardly be transported in safety, either with timber on board ship or washed across by the gulf-stream. Such was the rapidity of life in Brazil, and so quick the succession of broods, that the eggs would not remain unhatched during the voyage, and if hatched the young larvæ must perish. Nor did he think it likely that perfect wasps would be brought over alive; at any rate the specimens would be worn, and very different from those exhibited.

Mr. M'Lachlan exhibited a Trichopterous insect new to Britain, Neuronia clathrata of Kolenati, captured at Bishop's Wood, Staffordshire, by Mr. Chappell, of Manchester.

The Secretary exhibited a small box of South-American Coleoptera, sent to the Society by Mr. F. Schickendantz, of Pilciao, who found them on the flowers of a new species of Hydnora.

The Secretary exhibited specimens of the coffee-tree attacked by the "borer," and of the larva, pupa and imago of the insect, which had done great damage in the coffee-plantations of Southern India. These were sent by the Rev. G. Richter, Principal of the Government Central School, Mercara, Coorg. The insect proved to be a species of Clytus.

The Secretary made the following observations on the nomenclature of Australian Buprestidæ adopted by Mr. Edward Saunders in a paper read at the meeting of the 4th of November, 1867 (S. S. 1022):—

"The rejection by Mr. Edward Saunders, in his 'Revision of the Australian Buprestidæ described by the Rev. F. W. Hope,' of certain published names, in favour of the names given by Mr. Hope in the so-called 'Synopsis of Australian Buprestidæ,' raises a question of some importance as regards priority of nomenclature. I have always understood the rule to be this—that the specific name by which an insect is to be called and known is the name under which a sufficient description of the species was first published.

"Names contained in a paper which is privately printed, but not published, rank only as MS. names: however freely the paper may be disseminated among the author's friends, however wide the circle of his acquaintance, it must still remain inaccessible to the public,—it is not published within the meaning of the rule.

"What then are the facts concerning the paper which Mr. Edward Saunders (following Laporte and Gory and others) cites as Hope's 'Synopsis of Australian Buprestidæ'?

"The paper in question consists of thirteen printed pages, at the top of the first of which is the word BUPRESTIDÆ; this is the only title which it bears. There is no title-page, preface, introduction or explanation whatsoever; no author's name, no printer's name, no date; no name of any bookseller or of any place at which the public might obtain it; and as to many of the insects described, there is nothing to show that they are Australian species, or to point out the collections in which the type-specimens were deposited.

"At the same time there is no doubt that the author was Mr. Hope, that the date of printing was the year 1836, that the insects are all from Australia, and (when no other collection is mentioned) were in Mr. Hope's own cabinet; and lastly, besides the descriptions of sixty-six new species, the paper contains references to all the previously-described Australian Buprestidæ, (twenty-seven in number) so that 'A Synopsis of Australian Buprestidæ' would have been a very appropriate title to have given it.

"There can be little doubt that a print of this paper was in the hands of Laporte and Gory when they prepared their Monograph of the Buprestidæ, and it must be admitted that they cite the 'Synopsis of Australian Buprestidæ' as if it were a published work. Other writers have done the same, probably following Laporte and Gory, without having their attention directed to the question of publication or non-publication. It is true also that Hope himself (Col. Man. iii. 173) in 1840 speaks of 'a Prodromus which I published some few years back.' 'Published' in the sense of being communicated to his entomological friends, I have no doubt it was; but 'published' in the sense of being made accessible to or obtainable by the public, I believe it never was.

"Out of sixty-six forms described by Hope in 'Buprestidæ' as new species, it appears from Mr. Edward Saunders' investigations that three are unrecognizable, the type-specimens having been lost, and fourteen sink either as synonyms or varieties. Of the remaining forty-nine, the Hopeian names were in twenty-eight instances adopted and rightly applied by Laporte and Gory; fourteen have been published subsequently to 1836 under names different from Hope's, and these have been rejected by Mr. Edward Saunders, and the unpublished Hopeian names preferred. Of the residue, seven in number, descriptions (under Mr. Hope's names) are now for the first time about to be published by Mr. Edward Saunders.

"The necessity for the laborious examination which Mr. Edward Saunders has made is sufficient evidence that the insects in question have not become known, and do not pass current in the entomological world, by the names assigned to them by Hope. Such of his names as are in use have come into use in consequence of their adoption and publication by Laporte and Gory. So far from the printing of

'Buprestidæ' having given them currency, it seems that Laporte and Gory in some cases applied Hope's names to the wrong insects; and it is the species to which the names were thus erroneously applied that are known by the names which Hope intended for other insects.

"I submit that the unpublished names of the anonymous print 'Buprestidæ' must give way to published names, whatever the date of the latter may be."

Prof. Westwood argued that Mr. Hope's paper, though privately printed, had in fact been so widely disseminated as to amount to publication; at any rate, that it might be treated as published *sub modo*—*i. e.* as against all persons who had notice of its existence.

The Secretary remarked that, if that were so, the Hopeian names would prevail over those of Laporte and Gory; and as publication must be taken to be notice to all the world, every author subsequent to Laporte and Gory had, through the publication of their Monograph, constructive, if not actual, notice of the existence of Hope's descriptions. But he thought the ground untenable, and that even as against Laporte and Gory (and *a fortiori* as against those who had only constructive notice, through them, of the existence of the unpublished paper) the Hopeian names were of no authority. The adoption of them was not obligatory on Laporte and Gory, but was commendably courteous to Mr. Hope. In one instance only had they knowingly rejected Mr. Hope's name, Calodema Kirbii. Upon this Prof. Lacordaire (who probably thought that Hope's descriptions of 1836 were published) had remarked "MM. de Castelnau et Gory ont changé à tort le nom de l'espèce en celui de Cal. regalis." (Gen. Col. iv. 61). But the reason why Laporte and Gory did not adopt Hope's name was doubtless this, that there was already a Stigmodera Kirbyi of Guérin, described in the 'Voyage de la Coquille.' Calodema with Laporte and Gory was only a division of Stigmodera; when it was recognized as a separate genus, the two names Calodema Kirbii and Stigmodera Kirbyi might have co-existed, if regalis had not been published in the interim. That the publication of Calodema Kirbii, Coleop. Man. iii. 173, fig. frontisp. (1840), was subsequent to Laporte and Gory's regalis might be seen by reference to the Manual itself.

The President, Mr. Bates, Mr. M'Lachlan, Mr. Pascoe and other members, agreed that accessibility to the public could alone constitute publication within the meaning of the rule of priority in nomenclature.

Papers read.

The following papers were read by the Secretary:

"Remarks on Mr. Wallace's Pieridæ of the Indian and Australian Regions"; by Mr. W. C. Hewitson.

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"On the Coffee-borer of Southern India"; by the Rev. G. Richter. (A species of Clytus; see above).

"On Burmeisteria, a new genus of Melolonthidæ"; by Mr. Frederic Schickendantz.

New Part of 'Transactions.'

Trans. Ent. Soc., third series, Vol. v., part 7, being the sixth part published during the year 1867, was on the table.—*J. W. D.*

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Natural History Notes from Morayshire, *George Norman*, 1065.

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Birds.—Letters on Ornithology: Letter VI., Part II. Larus canus; being an Account of its Plumages and Transformations from the Nestling to the Adult Bird, *Harry Blake-Knox*, 1075. Ornithological Notes from the Isle of Wight, *Captain Hadfield*, 1088. Notes on the Folk-lore of Zoology, *Edward R. Alston*, 1091.

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